

WHAT IS CLAIMED IS:

1. An ink tank which supplies an ink to an ink jet recording head via an ink supplying port, which can supply
5 the ink by introducing negative pressure thereinside, and which has a gas-liquid separating means in a suction port through which the negative pressure required to suck and supply the ink is introduced, said gas-liquid separating means transmitting gases therethrough while not
10 transmitting said ink therethrough, the ink tank being characterized by having:

a fixed-negative-pressure generating means provided between said gas-liquid separating means and a source of the negative pressure required to suck and supply the ink,
15 said fixed-negative-pressure generating means preventing a fixed amount or more of negative pressure from being exerted on said gas-liquid separating means.

2. The ink tank according to Claim 1, characterized by
20 including as said fixed-negative-pressure generating means, a suction pump having a negative-pressure sensor.

3. The ink tank according to Claim 1, characterized by including a tube pump as said fixed-negative-pressure
25 generating means.

4. The ink tank according to Claim 1, characterized by

including a diaphragm pump as said fixed-negative-pressure generating means.

5. An ink jet recording head installed on an ink tank
5 which supplies an ink to an ink jet recording head via an
ink supplying port, which can supply the ink by introducing
negative pressure thereinside, and which has a gas-liquid
separating means in a suction port through which the
negative pressure required to suck and supply the ink is
10 introduced, said gas-liquid separating means transmitting
gases therethrough while not transmitting said ink
therethrough, the ink jet recording head being
characterized by having:

a fixed-negative-pressure generating means provided
15 between said gas-liquid separating means and a source of
the negative pressure required to suck and supply the ink,
said fixed-negative-pressure generating means preventing
a fixed amount or more of negative pressure from being
exerted on said gas-liquid separating means.

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6. The ink jet recording head according to Claim 5,
characterized by including as said fixed-negative-
pressure generating means, a suction pump having a
negative-pressure sensor.

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7. The ink jet recording head according to Claim 5,
characterized by including a tube pump as said fixed-

negative-pressure generating means.

8. The ink jet recording head according to Claim 5,
characterized by having a diaphragm pump as said
5 fixed-negative-pressure generating means.

9. An ink jet cartridge having an ink tank installed
therein, which supplies an ink to an ink jet recording head
via an ink supplying port, which can supply the ink by
10 introducing negative pressure therein, and which has
a gas-liquid separating means in a suction port through
which the negative pressure required to suck and supply
the ink is introduced, said gas-liquid separating means
transmitting gases therethrough while not transmitting
15 said ink therethrough, the ink jet cartridge being
characterized by having:

a fixed-negative-pressure generating means provided
between said gas-liquid separating means and a source of
the negative pressure required to suck and supply the ink,
20 said fixed-negative-pressure generating means preventing
a fixed amount or more of negative pressure from being
exerted on said gas-liquid separating means.

10. The ink jet cartridge according to Claim 9,
25 characterized by including as said fixed-negative-
pressure generating means, a suction pump having a
negative-pressure sensor.

11. The ink jet cartridge according to Claim 9, characterized by including a tube pump as said fixed-negative-pressure generating means.

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12. The ink jet cartridge according to Claim 9 characterized by having a diaphragm pump as said fixed-negative-pressure generating means.

10 13. An ink jet recording apparatus having an ink tank which supplies an ink to an ink jet recording head via an ink supplying port and which can supply the ink by introducing negative pressure therein, the ink jet recording apparatus having a gas-liquid separating means in a suction
15 port through which the negative pressure required to suck and supply the ink is introduced, said gas-liquid separating means transmitting gases therethrough while not transmitting said ink therethrough, the ink jet recording apparatus being characterized by having:

20 a fixed-negative-pressure generating means provided between said gas-liquid separating means and a source of the negative pressure required to suck and supply the ink, said fixed-negative-pressure generating means preventing a fixed amount or more of negative pressure from being
25 exerted on said gas-liquid separating means.

14. The ink jet recording apparatus according to Claim

13, characterized by including as said fixed-negative-pressure generating means, a suction pump having a negative-pressure sensor.

5 15. The ink jet recording apparatus according to Claim 13, characterized by including a tube pump as said fixed-negative-pressure generating means.

10 16. The ink jet recording apparatus according to Claim 13, characterized by having a diaphragm pump as the fixed-negative-pressure generating means.